



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,881	08/20/2001	Masaaki Nakashima	P21017	4044

7055 7590 06/07/2004

GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER

AN, SHAWN S

ART UNIT	PAPER NUMBER
----------	--------------

2613

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/931,881

Applicant(s)

NAKASHIMA, MASAOKI

Examiner

Shawn S An

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claims 1, 9, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura (6,476,851 B1).

**Regarding claims 1 and 9**, Nakamura discloses an imaging element for an electronic endoscope, comprising:

an elongated flexible endoscope in main body having a tip portion, wherein the tip portion of the main body is adapted to be inserted into an object to be observed (Figs. 11-12); a base (Fig. 18, 85);

an image sensor (CCD) mounted on the base, wherein the imaging sensor having a light receiving surface and an effective imaging region; and

a predetermined circuit (intricate circuitry of the conventional CCD) mounted on the base for taking out a signal from the image sensor, wherein

the predetermined circuit is arranged along the periphery of the light receiving surface of the image sensor on the base so that a center (see optical axis) of the base on the light receiving surface (coincides with the optical axis of the objective lens system (80)) of the image sensor is substantially aligned with a center of the effective imaging region of the image sensor (Fig. 18; col. 15, lines 2-14).

**Regarding claim 17**, Nakamura discloses an imaging optical system (CCD) for forming an image of the observation part on the light receiving surface of the imaging sensor (Fig. 18), and an opening tip portion of the main body for receiving the imaging

optical system and the imaging element in which the imaging optical system and the imaging element are disposed within the opening portion so that the optical axis of the imaging optical system passes through the center of the base of the imaging element (Fig. 18; col. 15, lines 2-14).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (6,476,851 B1).

**Regarding claims 2 and 10,** Nakamura discloses the base having an outer profile of a substantially rectangular shape (85). Furthermore, since Nakamura already teaches the optical axis of the objective lens system (80)) of the image sensor being substantially aligned with a center of the effective imaging region of the image sensor, and the base proportionally covering the entire CCD, and it is conventionally well known to have a display monitor comprising a rectangular shape, it would have been obvious to a person of ordinary skill in the relevant art employing the Nakamura's endoscope to realize the imaging region is formed into a rectangular shape, in which the effective imaging region is arranged with respect to the base so that one side of the effective imaging region is substantially in parallel with the corresponding side of the base.

5. Claims 3-6, 8, 11-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (6,476,851 B1) in view of Sasaki (5,408,265).

**Regarding claims 3 and 11**, Nakamura does not seem to disclose the intricate functions of the imaging element (CCD) comprising a signal processing circuit for carrying out an image processing, and a control circuit for carrying out timing control to extract a signal from the image sensor

However, Sasaki teaches an endoscope system (Fig. 2) comprising a signal processing circuit (37, 43) for carrying out an image processing including generating a video signal, and a control circuit (44) for carrying out timing control to extract a signal from the image sensor.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing the Nakamura's endoscope to incorporate the Sasaki's teachings as above for an obvious reasons of carrying out the image processing and timing control to extract a signal from the image sensor.

**Regarding claims 4, 6, 12, and 14**, Sasaki discloses A/D converter for converting an analog signal into a digital signal, and generating digital signal (39), and a D/A converter (42) converting digital signal from the generation circuit into an analog signal.

**Regarding claims 5 and 13**, Sasaki discloses a signal processing circuit (43) generating a video signal.

**Regarding claims 8 and 16**, since the combination of Nakamura and Sasaki discloses the signal processing circuit, control circuit, and the base, it would have been obvious to arrange the signal processing circuit in a substantially L-shaped area along with two continuous sides of the base, and the control circuit in a substantially L-shaped area along with other two continuous sides of the base, for fully utilizing the available areas of the base, as a matter of design choice.

6. Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura and Sasaki as applied to claims 3 and 11 above, respectively, and further in view of Kimura (4,489,350).

**Regarding claims 7 and 15**, the combination of Nakamura and Sasaki does not particularly disclose CMOS image sensor and the control circuit specifying an address of both H and V scanning directions of the image sensor.

However, Kimura teaches a solid state image pick up apparatus (Fig. 1) comprising disclose MOS image sensor and the control circuit specifying an address of both H and V scanning direction of the image sensor (col. 5, lines 27).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing the Nakamura's endoscope to incorporate the Kimura's teachings as above as an efficient way to read image data from each cell of the image sensor.

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Utsui et al (6,438,302 B1), Endoscope system and illuminating device for the endoscope.

B) Takahashi (5,776,049), Stereo endoscope and stereo endoscope imaging apparatus.

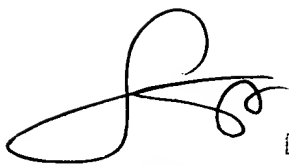
8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S An* whose telephone number is 703-305-0099. The examiner can normally be reached on Flex hours (10).

9. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 2613

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SHAWN B. ASH  
PATENT EXAMINER

SSA

Primary Patent Examiner

6/3/04